West, Texas Explosion

DATA MANAGEMENT PLAN

Prepared by

U.S. EPA Region 6
And
National DATA Team

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V1.0

9447633

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1) Executive Summary

This Data Management Plan (DMP) is intended to describe general data management practices and requirements for the West Fertilizer Response. The DMP is focused on data management procedures that have been developed by the U.S. Environmental Protection Agency (EPA) working with Federal and State partners. The plan describes the procedures to capture, manage, and report monitoring, sampling, and observational data. This plan promotes the standardization of collection procedures, elements, and management to ensure data usability. The plan will allow EPA and its response partners to provide a common operating picture to support Unified Command and information dissemination.

2) General Information

2a) Scenario: EPA, along with federal and state response partners are responding to the aftermath of the fire and explosion at the West Fertilizer Plan in West, Texas. EPA's mission is focused on monitoring for the impact on human health from the release of agricultural chemicals into the environment after the fire and explosion. Field crews are performing air monitoring and sampling.

2b) Special Considerations:

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EPA's geo-spatial viewer is provided for use by operations and the EPA R6 EOC. Field data collection is performed by EPA START Team members.

2c) Privacy Concerns: N/A

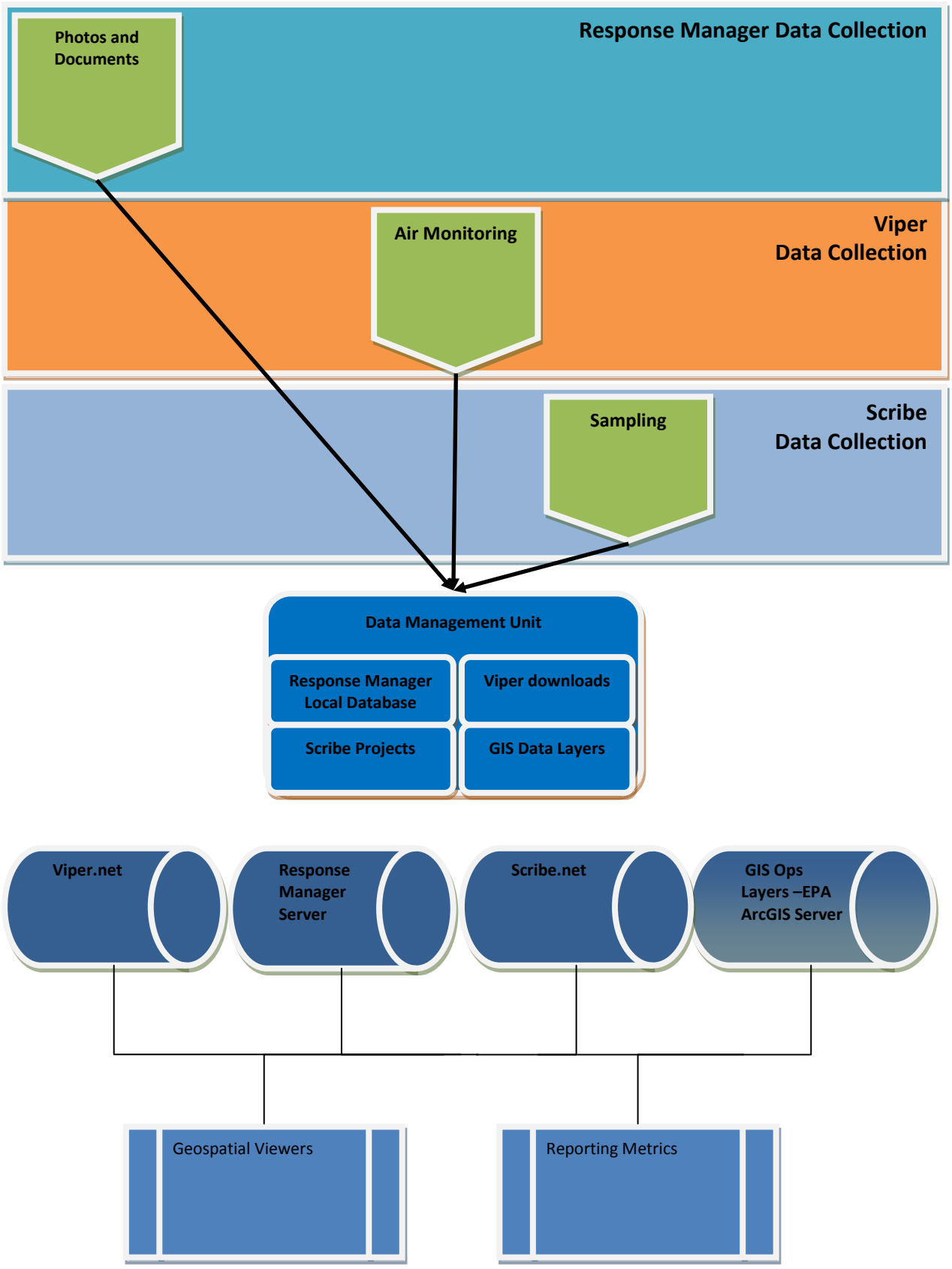
2d) Last Updated: by J.Polinko Latham version 1.0 4/20/2013

3) Overall Workflow

3a) Data Flow Diagram:

The emergency response data flow strategy includes electronic data capture at the point of origin for all data types when possible. If electronic data capture is not possible, standardized paper forms are utilized for consistent data capture that meets unified command's Data Quality Objectives (DQOs).

Figure 1: Data Flow Diagram


Photos and Documents
Response Manager Data Collection
Air Monitoring
Viper Data Collection
Sampling
Scribe Data Collection
Data Management Unit
Response Manager Local Database
Viper downloads
Scribe Projects
GIS Data Layers
Viper.net
Response Manager Server
Scribe.net
GIS Ops Layers –EPA ArcGIS Server
Geospatial Viewers
Reporting Metrics

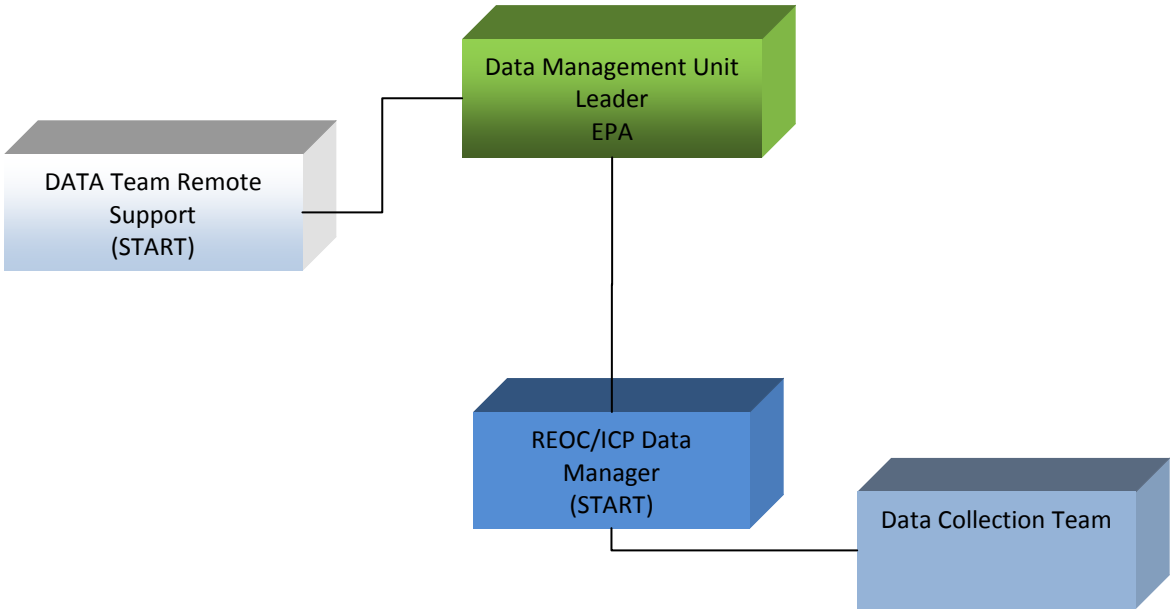
3b) Roles and Responsibilities: Data management roles and responsibilities are summarized in Table 1.

Table 1: Roles and Responsibilities

Position	Agency	Description
Data Management Unit Leader (DMUL) *Staffed by EPA DATA Team personnel for this incident*	EPA	• Overall responsibility of the data management process and reporting of the data that is collected by the field teams • Closely coordinates with federal and state partners to determine the valid data elements and data flow processes that will support the mission objectives • Manages and coordinates with all members of the Data Management Team • Coordinates with other units in the Planning Section regarding data input and reporting • Responsible for ensuring that the DQOs are communicated to the field teams and training is provided to ensure that the data collected is as accurate as possible • Responsible for resource staffing for Data Management Unit
Data Team Remote Support	Weston	• Responsible for data verification on Response Manager, Viper.net, and Scribe.net databases and reporting back to DMUL, on any data issues that exist in the database. • Responsible for geospatial viewer implementation and maintenance and management of related data and mapping services
REOC/ICP GIS Analyst	Weston	• Produces all supporting map products for the Incident Action Plan (IAP) using the most up to date data • Produces all supporting map products for field operations • Provides geo-spatial quality control in the field
Data Collection Field Teams	EPA/Weston	• Responsible for data collection as specified by the DMUL and/or the OSC

An organizational chart of the Data Management Unit is provided below.

Figure 2: Organizational Chart



4) Data Collection and Management

Data Stream	Data Collection Tool	Data Manager	Data Management or Database	Data Deliverable
Sampling Data	- Scribe: Field collection sheets - Scribe Direct laptop entry/Publish to Scribe.net	EPA/RST	Scribe/Scribe.net	- Reporting Matrices - Services to geo-spatial viewers
Monitoring Data	VIPER	EPA/RST	VIPER Server	- Services to geo-spatial viewer - Reporting Matrices
Photos and Documents	Response Manager	EPA	Response Manager Server	- Services to geo-spatial viewer -Reporting Matrices
GIS Ops Data Layers	ArcGIS	EPA	ArcGIS Server	- Services to geo-spatial viewer - Reporting Matrices

4a) Field Data Collection and Processing:

For data capture utilizing Response Manager, the following steps will occur:

- Observational Photos collected will be uploaded into the Response Module Under ER Photos
- Documents related to the Response will be uploaded to the West Fertilizer Facility in the Facility Module

For data capture utilizing Viper

- VIPER is a wireless network based communications system designed to enable real time transmission of data from field sensors to a remote computer and enterprise database SQL server for QA/QC and Reporting

For data capture utilizing SCRIBE

- Sampling Information will be entered into specific EDD format for import into the local SCRIBE Database. Lab Analytical Data will be entered into EDD format for import into local SCRIBE database. Local SCRIBE database will be published to SCRIBE.net to a enterprise SQL database management system.

4b) Data Collection SOPs & Checklists:

There are no Data Collection SOPs or Checklists for this Response

4c) Data Element Dictionary:

This is not required for this Response

4d) Entity Relationship Diagram:

This is not required for this Response

5) Geospatial Data Management:

The purpose of this section is to outline the structure that has been established to manage all GIS data and geospatial viewer implementation for the West Fertilizer Explosion Response.

5a) Geospatial Data Management Common Operational Picture: The EPA Common Operational (COP) Geospatial Viewer is to be used by Ops and EPA REOC as central viewing place for all data stream discussed in this document. All monitoring and sampling information is to be managed through the established enterprise data management structure to allow for real time viewing on the viewer. All site specific operational static GIS layers will be managed on EPA ArcGIS Server to be displayed on the COP.

6) Data Verification Protocols

6a) Verification SOPs & Checklists:

This does not apply to the Response

6b) SQL Verification Queries:

This does not apply to this Response

6c) Scribe Data Verification :

This does not apply to this Response

7) Data Analysis & Reporting Procedures

7a) Who is using the data being reported: The reports described below in Table 2 are being utilized by the EPA Operational Unit and Management

7b) Reporting Requirements: Reporting requirements are summarized in Table 2.

Table 2: Reporting Requirements

Report Name	Report Specifications
Daily Mobile Air Monitoring Report	- Includes the Following Data Summary for each Mobile Run for Nh3 and VOCs ▪ Count of Instrument Readings ▪ Average ▪ Max Result ▪ Number of Detects -Includes Map for each Run showing ▪ Track of Mobile Run ▪ NH3 Results

7c) Reporting SOPs & Procedures:
ArcGIS Services are generated through SQL Server and ArcGIS server to create geospatial data layers to use for mapping in ArcGIS viewer for Flex, or in standalone ArcMAP applications for Scribe, VIPER, and Response Manager Data.

7d) SQL Reporting Queries:

See Attachment A for Viper Reporting and Mapping Queries

7e) GIS / Spatial Data Visualization Requirements: For the West Fertilizer Explosion, a GIS Flex Site has been implemented to assist with the reporting for the Response.

GENERAL INFORMATION

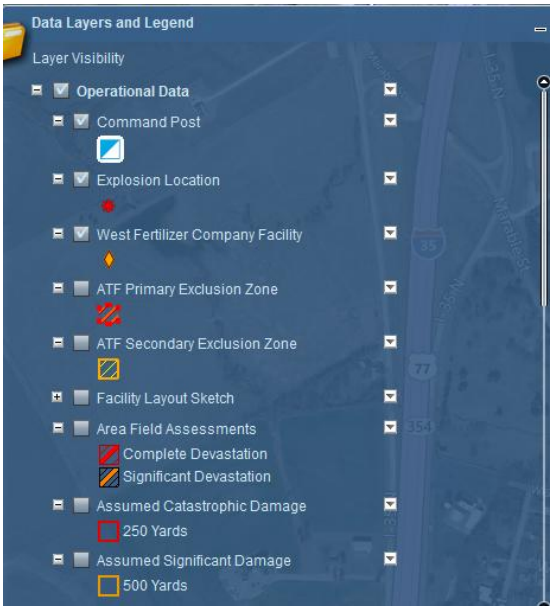
URL: http://gis.eparesponsemanager.net/r6/WestFertilizer/
Username: west
Password: [Please Request from R6 EPA/REOC]

BASE LAYERS

Bing Aerial Hybrid, Bing Streets, Bing Aerial, ASPECT Imagery, ArcGIS Aerial, Shaded Relief, Topographic, and ESRI Navigational Charts can be turned on and off as well as viewed with transparency to blend two of the imagery datasets together.

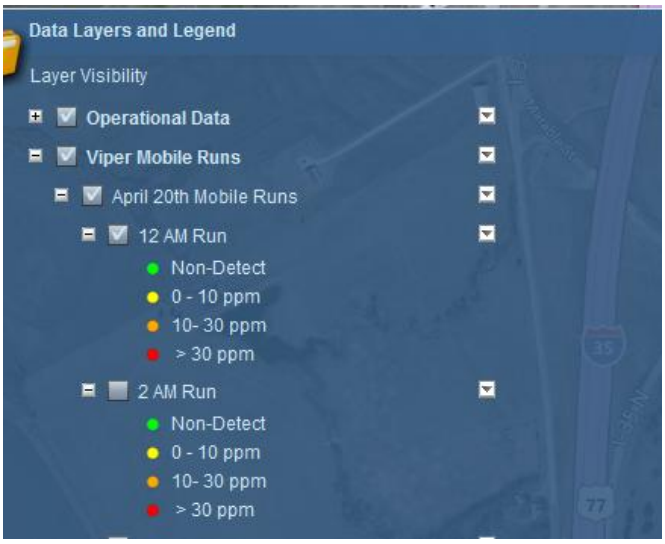
OPERATIONAL DATA LAYERS

Operational Data ArcGIS Services for the West Texas Fertilizer Response have been created from field documentation to be used in Planning, Operational and Reporting activities. The following layers are currently available

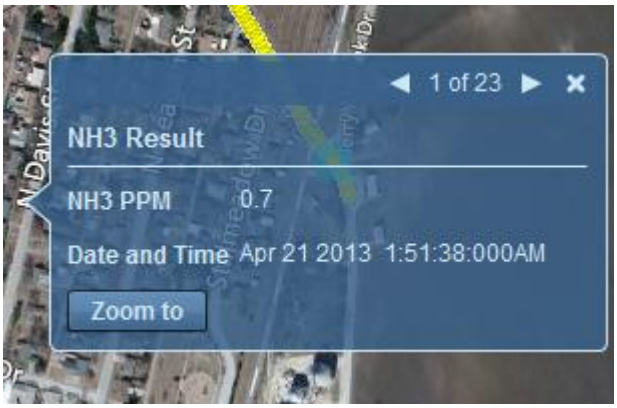


VIPER MOBILE RUNS

Viper Mobile ArcGIS Services are dynamic rest services that pull live data from the Viper.net database for immediate mapping Mobile run results and information. Below is an example of a Viper Run.



Individual NH3 Mobiel results can be viewe through popups enabled on the point.



TOOLS FOR USE ON VIEWER

 Identify Tool is used to identify features on the map as well as export a selection of targets to be exported into an Excel viewable format.

 Weather Service Tool overlays current atmospheric conditions over the target area.

 Draw and Measure tool allows users to add additional customizable overlays on the map as well as generate distances and areas of concern.

 Google Street View Tool allows users to get an on the ground perspective of the area.

 Map contents enables and interactive window to turn Operational Layers on and off and view symbology.

 Social Media Tool allows for searching YouTube, Flickr, and Twitter and overlaying the search results geospatially within a user defined area.

 Print function allows for user generated hard and soft copies of maps to be generated and disseminated

 Find an Address Tool allows for searching by Address or Latitude/Longitude

 Elevation Tool allows users to draw a line or place a point at a location to determine elevation contours or spot location information.

 Emergency Response Guide allows users to model a spill based on known information of a target.